

ABSTRACT

A line amplification system connected on the fiber between two flexibility sites of a wavelength switched network is built with a number of modules that can be arranged in a line amplifier, preamplifier and postamplifier configurations. The line and preamplifiers include a Raman module and a two-stage EDFA module provided with mid-stage access. A dynamic gain equalizer is connected in the mid-stage in the line amplification configurations. As well, dispersion compensating module may be connected in the mid-stage whenever/if needed. A line monitoring and control system operates the line amplification system so that all channels traveling along a link have substantially the same power, in the context of channels being added and removed to/from the line arbitrarily.